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Norfolk Southern Bartow Derailment
EPA Region 4
Spot Report #1
January 8, 2019 – 09:00 hours

I. NORFOLK SOUTHERN DERAILMENT

On January 6, 2019, Norfolk Southern reported the derailment of approximately 39 cars, 19 of which were carrying hazardous materials (HAZMAT), traveling near the City of Bartow, Georgia causing the evacuation of approximately 350 residents. Norfolk Southern, Jefferson County, Georgia Environmental Protection Division (GAEPD) and the EPA have established a Unified Command.

A. Location

The location of the derailment (the Site) is near Friendship Church Road and State Highway 171. The nearest town landmark is the City of Bartow. Norfolk Southern reported via the National Response Center (Report # 1234710) that the derailment took place on the main line at Mile Post (MP) S112.7. The derailment occurred in a wetland area of Williamson Swamp Creek, which is a tributary of the Ogeechee River. The immediate area surrounding the Site is predominantly farmland. The City of Bartow, the most populated area, is located two (2) miles from the derailment site.

B. Potential Cause of Incident

The potential cause is under investigation by the Federal Railroad Administration and Norfolk Southern.

C. Conditions at the Scene

1. 19 HAZMAT cars were involved in the initial derailment.
 - a) 13 chlorine tank cars (loaded amount - 130 tons each)
 - b) 1 hydrochloric acid liquid tank car (loaded amount - 123 tons)
 - c) 3 sodium hydroxide liquid tank cars (loaded amount - 131 tons each)
 - d) 1 hydrogen peroxide liquid tank (loaded amount - 75 tons)
 - e) 1 sodium bisulfite liquid tank (loaded amount - 131 tons)
2. Two (2) Norfolk Southern personnel on the train were transported to a Burn Unit in Augusta, Georgia. Their status is unknown at this time.
3. Six (6) first responders were transported to a local hospital for evaluation. Four (4) were admitted for treatment and observations. Two (2) were transferred to a Burn Unit in Augusta, GA for further treatment.

4. Nineteen (19) residents were evaluated at the local hospital. their status is unknown at this time.
5. Norfolk Southern completed initial damage assessment operations and determined that the chlorine tank cars are not releasing at the time. The hydrochloric acid and the hydrogen peroxide are currently releasing and reacting with each other. Potential products of the reaction include hydrochloric acid vapor, chlorine and chlorine oxides. The reaction is creating a visible vapor cloud. It is believed that one sodium hydroxide tank car is also releasing material. Actual volumes released is unknown at this time.
6. Current remediation operations include creating access to the Site and establishing staging areas. Crews worked to remove the sodium hydroxide tank cars in order to gain access to the hydrochloric acid and hydrogen peroxide tank cars. Crews are using soil to solidify the pool of hydrochloric acid and remove it from the area where the hydrogen peroxide is releasing. A separate crew is working to disentangle the chlorine tank cars and stage them for transload or re-rail. Damage assessments indicate that re-railing may not be possible due to damage to the wheel assembly.
7. Both Norfolk Southern and EPA have established continuous exclusion zone and roving perimeter air monitoring. Data collected is reported back in near real-time to the Emergency Operations Center (EOC) via mobile data collection and telemetry systems.
8. Jefferson County Emergency Management lifted the evacuation order in the morning of January 7. Roving and fixed air monitoring will determine if evacuations need to occur again. Residents in close proximity have been identified. Hazardous concentrations have been detected in the exclusion zone. Personnel were either removed from the zone or donned appropriate personal protective equipment. No detections of hazardous materials were detected during the roving perimeter air monitoring operations.
9. Norfolk Southern has established a public assistance center at the Jefferson County EOC to address the needs of impacted residents.
10. Downstream Receptors
 - A downstream trace performed by the Region 4 REOC indicates that there are no downstream surface drinking water intakes of concern. The City of Bartow draws its drinking water from two (2) artesian wells.
 - The GAEPD has reached out and advised all downstream drinking water facilities of the incident.

D. Materials Involved

1. **Hydrochloric acid** is classified as a corrosive liquid. Causes severe skin burns and eye damage on contact. It is toxic if inhaled.
2. **Hydrogen peroxide** is classified as an oxidizing material. May cause fire or explosion on contact with organic materials such as diesel fuel. Causes severe skin burns and eye damage. Harmful if inhaled.
3. **Sodium hydroxide** is classified as a corrosive material. Causes severe skin burns and eye damage.
4. **Sodium bisulfite** is classified as a corrosive material. Harmful if swallowed. Causes serious eye damage. This tank car is not currently releasing.
5. **Chlorine** is classified as a poison by inhalation hazard and a marine pollutant. May cause or intensify fire. Causes skin irritation. Causes serious eye irritation. Toxic if inhaled. Very toxic to aquatic life. These tank cars are not currently releasing.

E. Responding Agencies

1. Jefferson County Emergency Management Personnel are assisting with the response.
2. One (1) GAEPD State On-Scene Coordinator is on scene.
3. Norfolk Southern is on-scene, assessing the situation, and coordinating mobilization of resources to conduct cleanup. Resources mobilized include HAZMAT cleanup contractors, Environmental Scientists, Derailment cleanup contractors, and HAZMAT Technical Specialists.
4. Two (2) Region 4 EPA On-Scene Coordinators were deployed from the Atlanta Regional office to assess the incident, provide air monitoring and provide oversight of cleanup operations. Three (3) additional Region 4 EPA On-Scene Coordinators have been deployed to assure appropriate 24-hour coverage of Key Leadership Positions (KLP).
5. Superfund Technical Assessment and Response Team (START) contractors have been deployed to support EPA in the response.

F. Planning Section

1. Exclusion zone and roving perimeter air monitoring will continue.
2. Crews will continue to remove intact cars in order to gain access to the hydrochloric acid and hydrogen peroxide tank cars. A more detailed damage assessment and environmental impact assessment will be completed once the chemical reaction is stopped.
3. Continue to disentangle the chlorine tank cars and prepare for trans-load to undamaged tank cars.
4. The hydrogen peroxide is concentrated, and Unified Command is developing a plan to treat the material on-site as opposed to offloading the material and sending offsite. HAZMAT Technical Specialists are concerned that the material will violently react during the offloading process or when in transit to the disposal facility.

Figure 1, Chlorine Tank Car Pile



Figure #2, Three Sodium Hydroxide Tank Cars in the foreground with the vapor clouds from the Hydrochloric Acid and Hydrogen Peroxide Tank Cars.



Figure #3, Removing one of the Sodium Hydroxide Tank Cars. This tank car was intact and not leaking.



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